REMARKS

This application has been carefully reviewed in light of the Office Action dated November 14, 2007. Claims 1 to 6, 8 to 17 and 19 to 24 are in the application. Claims 1, 12, 22 and 23 are the independent claims. Reconsideration and further examination are respectfully requested.

Turning first to a formal matter, Applicants note that while the Office Action again acknowledges Applicants' claim to foreign priority, the Office Action still does not explicitly acknowledge receipt of a certified copy of the priority document. Accordingly, Applicants respectfully request that the next communication acknowledge receipt of a certified copy of the priority document.

Turning now to the merits of the Office Action, Claims 2 and 13 were rejected under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness. In particular, the Office Action asserts that it is unclear how a page data management unit is generated in Claims 2 and 13 when one already exists in the respective independent claims. This rejection is traversed. In particular, Claims 2 and 13 do not recite that *another* page data management unit is generated. Rather, Claims 2 and 13 elaborate on *how* the page data management unit of independent Claims 1 and 12 is generated. Specifically, Claims 2 and 13 recite that the page data management unit of Claim 1 and 12 is generated in a memory in response to reception of the data of the first format for respective pages. Thus, the language of dependent Claims 2 and 13 is seen to be sufficiently clear, and withdrawal of the rejection is respectfully requested.

Claims 1 to 6, 8 to 10, 12 to 17, 19 and 21 to 24 were rejected under 35 U.S.C § 103(a) over U.S. Publication No. 2002/0120634 (Min) in view of U.S. Patent No. 5,717,842 (Ambalavanar). Claims 11 and 20 were rejected under § 103(a) over Min and Ambalavanar in view of U.S. Patent No. 5,884,014 (Huttenlocher). Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention generally concerns processing data for respective pages using a page data management unit. Data of a first format for respective pages is received, and the data of the first format is converted into data of a second format.

According to one aspect of the invention, a page data management unit manages data of the first and second formats in first and second page data in association with each other. By virtue of this arrangement, it is ordinarily possible to simplify the structure of storage of the pages and reduce memory usage, since a separate page management record is not required for each format of each page.

According to another aspect of the invention, a plurality of output processors each execute a respective output process for the first page data or for the second page data, independently. The page data management unit is deleted under a condition that none of the plurality of output processors refer to the page data management unit and the output processes by the plurality of the output processors are complete.

By virtue of these features, it is ordinarily possible to prevent the page data management unit from being deleted while one or more output processors are still referring to the page data management unit.

Referring specifically to claim language, independent Claim 1 is directed to a data processing apparatus for processing data for respective pages. The apparatus includes a data reception unit for receiving data of a first format for respective pages, a data conversion unit for converting the data of the first format into data of a second format, a page data management unit for managing the data of the first and second formats in first and second page data in association with each other, a plurality of output processors, each for executing a respective output process for the first page data or for the second page data, independently, and a control unit for managing whether or not any of the plurality of output processors which execute an output process with reference to the first or second page data refer to the page data management unit. The control unit deletes the page data management unit under a condition that storage of the data of the first and second formats in the memory is complete, none of the plurality of output processors refers to the page data management unit, and the output processes by the plurality of output processors are complete.

Independent Claim 12 is directed to a method substantially in accordance with the apparatus of Claim 1.

Independent Claim 22 is directed to a data processing apparatus for processing data for respective pages. The apparatus includes a data reception unit for receiving data of a first format for respective pages, a data conversion unit for converting the data of the first format into data of a second format, a page data management unit for managing first page data of the first format and second page data of the second format in association with each other, a plurality of output processors, each for executing a respective output process for the first page data or for the second page data, independently, and a

control unit for managing whether or not any of the plurality of output processors refers to the page data management unit. The control unit deletes the page data management unit under a condition that none of the plurality of output processors refer to the page data management unit and the output processes by the plurality of output processors are complete.

Independent Claim 23 is directed to a method substantially in accordance with the apparatus of Claim 22.

The applied art is not seen to disclose or suggest the features of the present invention, and in particular is not seen to disclose or suggest at least the features of (i) managing data of first and second formats for respective pages in first and second page data in association with each other by a page data management unit, and (ii) deleting the page data management unit under a condition that (a) none of a plurality of output processors refer to the page data management unit, wherein each output processor is for executing a respective output process for the first or second page data, and (b) the output processes by the plurality of output processors are complete.

As understood by Applicants, Min is directed to a metadata abstraction interface interposed between multimedia files and applications that seek to read or modify metadata associated with the multimedia files. The metadata abstraction interface includes metadata decoders for parsing metadata of a multimedia file stored in a native format and rendering the metadata in a generic format. See Min, Abstract.

Page 4 of the Office Action asserts that Min (paragraph [0014]) discloses a page data management unit for managing data of first and second formats in first and second page data in association with each other.

However, the cited portions of Min simply describe coders/decoders which convert between various native multimedia data formats and a generic format. See Min, paragraphs [0014] and [0040]. Specifically, each decoder renders generic metadata from a native format, and each coder renders metadata in a native format from the generic metadata. See Min, paragraphs [0043] and [0047].

Thus, Min simply uses coders and decoders to convert back and forth between generic and native formats, and converts for each native format as necessary. Accordingly, Min is seen to provide for management of each individual data format separately. Therefore, Min is not seen to disclose or suggest a page management unit for managing different data formats, much less a page data management unit for managing data of first and second formats for respective pages in first and second page data in association with each other.

In addition, Min is not seen to disclose or suggest deleting the page data management unit under a condition that (a) none of a plurality of output processors refer to the page data management unit, wherein each output processor is for executing a respective output process for the first or second page data, and (b) the output processes by the plurality of output processors are complete.

In this regard, page 4 of the Office Action concedes that Min does not disclose deleting a page data management unit under a condition that storage of data of first

and second formats in the memory is complete and reference to page data by an output processor is complete. Applicants agree, and submit that Min therefore also cannot disclose deleting the page data management unit under a condition that (a) none of a plurality of output processors refer to the page data management unit, wherein each output processor is for executing a respective output process for the first or second page data, and (b) the output processes by the plurality of output processors are complete.

Ambalavanar is not seen to remedy the deficiencies of Min. As understood by Applicants, Ambalavanar is directed to a method of memory allocation in a printing system. A plurality of blocks are created and designated with identifiers, and in response to a request from a client, a first set of identifiers and first set of blocks are placed into a database. The client begins filling up the blocks with image data, and as the first set of blocks is filled, a resource manager places a second set of identifiers in the database. See Ambalavanar, Abstract.

However, Ambalavanar is not seen to disclose or suggest a page data management unit for managing data of first and second formats for respective pages in first and second page data in association with each other. In particular, Ambalavanar is simply seen to describe allocating memory space to clients for image data. See Ambalavanar, Abstract.

In addition, Ambalavanar is not seen to disclose or suggest deleting the page data management unit under a condition that (a) none of a plurality of output processors refer to the page data management unit, wherein each output processor is for executing a

respective output process for the first or second page data, and (b) the output processes by the plurality of output processors are complete.

In this regard, page 5 of the Office Action asserts that Ambalavanar (Figure 12 and Column 14, line 66 to Column 15, line 8) discloses deleting a page data management unit under a condition that storage of the data of one or more formats in the memory is complete and reference to page data by the output processor is complete.

However, as noted above, Ambalavanar is not seen to disclose or suggest a page data management unit at all. Accordingly, it is not seen how Ambalavanar can possibly disclose deleting the page data management unit.

Moreover, the cited portions of Ambalavanar simply disclose a "garbage collection" in which the system combines memory blocks having image data already consumed by a client, eventually placing a whole block in a "free block" list. See Ambalavanar, Column 14, line 66 to Column 15, line 8. Ambalavanar is not seen to disclose or suggest determining how many output processors refer to a page data management unit or determining whether an output process for first and second page data of different formats by a plurality of output processors is complete, much less deleting a page data management unit under a condition that (a) none of a plurality of output processors refer to the page data management unit, wherein each output processor is for executing a respective output process for the first or second page data, and (b) the output processes by the plurality of output processors are complete.

Huttenlocher has been reviewed and is not seen to remedy the deficiencies of Min and Ambalavanar.

Therefore, independent Claims 1, 12, 22 and 23 are believed to be in condition for allowance, and such action is respectfully requested.

The other claims in the application are each dependent from the independent claims discussed above, and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

Michael J. Guzniczak
Attorney for Applicants
Registration No.: 59,820

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

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